

REMARKS

Claims 20 and 29 are canceled, and therefore claims 19, 21 to 23, 30 to 32, 35, and 36 are currently pending and being considered in the present application (claims 24, 33, and 34 were previously withdrawn in response to a restriction requirement).

In view of the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

Generally, the claims have been rewritten to remove reference numbers to better conform the claims to U.S. patent law practice. Approval and entry are respectfully requested.

The drawings were objected to under 37 C.F.R. § 1.83(a), but this Rule also provides that “conventional features disclosed in the description and claims . . . should be” -- but are not required to be -- “illustrated in the drawing . . . where their detailed illustration is not essential for a proper understanding of the invention.” Thus, the objection to the drawings is respectfully traversed since 37 C.F.R. § 1.83(a) is subject to 37 C.F.R. § 1.81, which only requires a drawing “where necessary for the understanding of the subject matter sought to be patented”. In this regard, the following is submitted:

As to the features mentioned in section (i) of the objection to the drawings, a more detailed illustration is not essential for a proper understanding of the claimed subject matter because each feature of the referenced claim 27 is shown in the figures (i.e. Fig. 3) where contact areas (20,22) are illustrated on the sides situated opposite one another, as provided in the claimed subject matter.

As to the features mentioned in section (ii) of the objection to the drawings, a more detailed illustration is not essential for a proper understanding of the claimed subject matter because each feature of the referenced claim 28 is shown in the figures (i.e. Fig. 3) where measurement areas (6, 7) are situated adjacent to one another in the lateral direction (Y), and at least one contact area (20, 22, 30, 32) is formed on each of the four sides of the measurement chip (2).

As to the features mentioned in section (iii) of the objection to the drawings, a more detailed illustration is not essential for a proper understanding of the claimed subject matter because the contact areas of the referenced claim 29 are clearly illustrated in the figures. For example, Fig. 1 illustrates location of pads 21 and 23, so that one skilled in the relevant art would understand that pads are within *contact areas*. In fact Fig. 1 clearly illustrates contact areas 20 and 22. Indeed, it is difficult to imagine how more clear the drawings can be.

As to the features mentioned in section (iv) of the objection to the drawings, a more detailed illustration is not essential for a proper understanding of the claimed subject matter because the microstructured sensor and the wafer bond support of the referenced claim 30 are illustrated in the figures and explained in the specification. For example, with reference to Fig. 3 the specification specifically discloses that “in the center of measurement chip 2 an *interrupted wafer bond support point 26 is formed between measurement areas 6, 7* in order to increase the stability of gas sensor 1. (See Specification, page 7, lines 23 to 26, (emphasis added)). Thus, the specification and the figures clearly explain, especially to one skilled in the relevant art, sufficient detail for a proper understanding of the claimed subject matter.

For at least the aforementioned reasons it is respectfully requested that the drawing objections be withdrawn.

Claim 20 was objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. While the rejection may not be agreed with, to facilitate matters, claim 20 has been canceled as requested by the Office Action.

Claim 32 was rejected under 35 U.S.C. § 112, ¶ 1 as assertedly failing to comply with the enablement requirement. In this regard, the standard for determining whether a patent application complies with the enablement requirement is that the specification describe how to make and use the invention — which is defined by the claims. (See M.P.E.P. § 2164). The Supreme Court established the appropriate standard as being whether any experimentation for practicing the invention was undue or unreasonable. (See M.P.E.P. § 2164.01 (citing Mineral Separation v. Hyde, 242 U.S. 261, 270 (1916); In re Wands, 858 F.2d 731, 737, 8 U.S.P.Q.2d 1400, 1404 (Fed Cir. 1988))). Thus, the enablement test is “whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation.” (See id. (citing United States v. Teletronics, Inc., 857 F.2d 778, 785, 8 U.S.P.Q.2d 1217, 1223 (Fed. Cir. 1988))).

The Federal Circuit has made clear that there are many factors to be considered in determining whether a specification satisfies the enablement requirement and that these factors include but are not limited to the following: the breadth of the claims; the nature of the invention; the state of the prior art; the level of ordinary skill; the level of predictability in the art; the amount of direction provided by the inventor; the existence of working examples; and the quantity of experimentation needed to make or use the invention based on the disclosure. (See id. (citing In re Wands, 858 F.2d at 737, 8 U.S.P.Q.2d at 1404 and 1407)). In this regard, the

Federal Circuit has also stated that it is “improper to conclude that a disclosure is not enabling based on an analysis of only one of the above factors,” and that the examiner’s analysis must therefore “consider all the evidence related to each of these factors” so that any nonenablement conclusion “must be based on the evidence as a whole.” (See M.P.E.P. § 2164.01).

It is respectfully submitted that the present application enables a person having ordinary skill in the art to practice the claimed subject matter of the claims without undue experimentation. The specification describes and explains how to practice the subject matter in each of the pending claims.

With respect to claim 32, the “auxiliary structure” is described throughout the specification and illustrated in the figures. For example, “Figure 4a shows a top view of a chip system of a gas sensor ... having contact areas on two opposite sides and having *auxiliary structures for the cap processing at the edge of the chip*.” (See, specification, page 3, lines 4 to 7, (emphasis added)). Furthermore, “Figure 4 shows a top view of a chip system of a gas sensor ... having ... *auxiliary structures for cap processing on the edge of the chip*.” (Id., page 3, lines 12 to 16, (emphasis added)). The specification further provides that “*auxiliary structures 25 for the cap processing are formed before and after contact areas 20, 22 in longitudinal direction X, as parts of connecting area 3*; the same holds correspondingly in Figures 4a and 5. (Id., page 7, lines 18 to 22, (emphasis added)). In addition, the specification provides, with reference to Fig. 5, that “the *auxiliary structures 25* described in relation to Figures 3, 4a are formed as *parts of connecting area 3* for the cap processing in the isolation of the individual gas sensors 1.” (Id., page 8, lines 12 to 15, (emphasis added)). In view of the foregoing, is believed that the present application enables a person having ordinary skill in the relevant art to practice the claimed subject matter of the claims without undue experimentation.

Claim 30 was rejected under 35 U.S.C. § 112, ¶ 2 as assertedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Office Action conclusorily asserts that it is “unclear as to what an ‘interrupted’ point comprises.” The rejections are respectfully traversed.

As regards the term cited in the Office Action as indefinite, it is respectfully submitted that the cited term is definite and clear as used and as would be understood when the rejected claim 30 is read in view of the specification — which is the proper objective standard. As to the cited term, the present application extensively and specifically discloses, for example, the following: “Figure 3 shows a top view of a chip system of a sensor having contact areas on two opposing sides and having an *interrupted centrally situated wafer bonding support point*.”

(*Id.*, page 3, lines 1 to 3, (emphasis added)). Further, the specification provides that “in the center of measurement chip 2 an interrupted wafer bond support point 26 is formed between measurement areas 6, 7 in order to increase the stability of gas sensor 1.” (*Id.*, page 7, lines 22 to 26, (emphasis added)). Thus, Figure 3 and the specification clearly explain and illustrate the “interrupt.” Still further, the specification provides that “interrupted wafer bond support point 26 is omitted” in Figure 4a (*See* specification, page 7, lines 29 to 32. Thus, a comparison between Figures 3, where an “interrupt” is present and in Figure 4a, where it is omitted, offers additional clarity on the cited term “interrupt.”

Accordingly, the specification – as read by a person having ordinary skill in the art – provides a plain understanding of the term “interrupt” as provided for in the context of claim 30. Indeed, it is difficult to imagine how more definite the claim language could be in view of the extensive and specific support and examples provided in the specification. Therefore, one skilled in the relevant art would readily understand -- especially in view of the foregoing -- that the term “interrupt” refers to 26 of Figure 3.

It is respectfully submitted that the cited term is therefore definite, especially to a person having ordinary skill in the relevant art, in view of the foregoing, as well as the remainder of the specification. In view of the above, it is respectfully submitted that the presently pending claim 30 complies with the second paragraph of § 112 since a person having ordinary skill in the art would understand what is claimed when the claim is read in view of the specification. *See Miles Labs., Inc. v. Shandon, Inc.*, 997 F.2d 870, 27 U.S.P.Q.2d 123 (Fed. Cir. 1993). In this regard, it is also noted that it is axiomatic that the terms in a claim are to be understood in view of the specification. (*See In re Weiss*, 26 U.S.P.Q.2d 1885, 1887 (Fed. Cir. 1993) (when interpreting a claim term or phrase, one must “look to the specification for the meaning ascribed to that term”; Board reversed) (unpublished decision); *In re Okuzawa*, 190 U.S.P.Q. 464, 466 (C.C.P.A. 1976) (“claims are not to be read in a vacuum, and limitations therein are to be interpreted in light of the specification”; Board reversed; emphasis in original) (citing *In re Royka*, 180 U.S.P.Q. 580, 582-83 (C.C.P.A. 1974) (claims are “not to be read in a vacuum” and “their terms still have to be given the meaning called for by the specification of which they form a part”; Board reversed; emphasis in original); and *In re Rohrbacher*, 128 U.S.P.Q. 117, 119 (C.C.P.A. 1960) (an “applicant is his own lexicographer and words used in his claims are to be interpreted in the sense in which they are used in the specification”; Board reversed))).

In summary, it is respectfully submitted that all of the presently pending claims are allowable at least for the foregoing reasons.

Claims 19, 20, 21, 25 to 27, and 31 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent no. 5,521,123 (the “Komatsu” reference).

To reject a claim under 35 U.S.C. § 102(b), the Office must demonstrate that each and every claim feature is identically described or contained in a single prior art reference. (See *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991)). Still further, not only must each of the claim features be identically described, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed invention, namely the claimed subject matter of the claims, as discussed herein. (See *Akzo, N.V. v. U.S.I.T.C.*, 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986)).

As further regards the anticipation rejections, to the extent that the Office Action may be relying on the inherency doctrine, it is respectfully submitted that to rely on inherency, the Office must provide a “basis in fact and/or technical reasoning to reasonably support the determination that the assertedly inherent characteristics *necessarily* flows from the teachings of the applied art.” (See M.P.E.P. § 2112; emphasis in original; and see *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int’f. 1990)). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic. Accordingly, it is respectfully submitted that any anticipation rejection premised on the inherency doctrine is not sustainable absent the foregoing conditions.

It is respectfully submitted that the “Komatsu” reference does not identically disclose (nor suggest) the claim 20 feature of “one measurement chip in which there is formed a *first measurement area* having a first measurement structure and at least one *second measurement area* having a second measurement structure.” In this regard, the specification provides that “both measurement structures are formed on one chip and are accommodated in a common intermediate space under a cap. *Very good synchronization characteristics* are achieved through the spatial proximity, the identical gas content, and in particular also the identical internal pressure, as well as the *direct thermal coupling* via the cap and *substrate* of the measurement chip.” (See, specification, page 2 lines 5 to 11, (emphasis added)). Further, “having *two measurement areas on one chip* ... also offers *cost advantages* during manufacture in comparison with the separate manufacture of two sensors.” (See, specification, page 4, lines 19 to 22, (emphasis added)). Thus, the claimed subject matter relates to *one measurement chip* having several measurement areas. The specification clearly explains the benefits with this approach.

In stark contrast, the “Komatsu” reference, which the Office Action relies upon to identically disclose all of the claim features, discusses *separate parts* which are merely *bridged* together. In this regard the “Komatsu” reference provides that the sensors comprise of “a pair of bridging parts 10a, 10b perfectly identical in construction.” (The “Komatsu” reference, column 9, lines 5 to 9, (emphasis added)). Further, the structures 11a, 11b (cited by the Office Action) are merely “infrared temperature-sensitive films” which are formed on top of the separate bridging parts. (See, the “Komatsu” reference, column 9, lines 7 to 20.) Thus, the “Komatsu” reference discusses separate chips and not “one measurement chip.” Therefore, the “Komatsu” reference does not identically disclose (nor even suggest) the feature of “*one measurement chip* in which there is formed a first measurement area having a first measurement structure and at least one second measurement area having a second measurement structure” as provided in the claimed subject matter.

Accordingly, claim 19 is allowable, as are its dependent claims 21, 25 to 27, and 31. Claim 20 has been canceled without prejudice.

Claims 20 and 29 are canceled without prejudice, thereby rendering moot the anticipation rejections of these claims.

Claims 19, 20, 21, 25 to 27, 29, and 31 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent no. 4,021,766 (the “Aine” reference).

While the rejection may not be agreed with, to facilitate matters, independent claim 19 has been rewritten herein without prejudice to provide that the cap “is made of silicon” and the features of dependent claim 29 have been included, thereby rendering moot the present rejection. No new matter has been added and the added features are completely supported by the specification.

It is respectfully submitted that the “Aine” reference does not identically disclose (nor suggest) the claim 19 feature of “one cap chip that is made of silicon and is fastened in vacuum-tight fashion to the measurement chip in a connecting area” as currently presented. In this regard, the “Aine” reference indicates that “the spring structure 22 is sealed ... by means of a thin metallic diaphragm 51 sealed at its periphery around each of the spring structures 24.” (The “Aine” reference, column 6, lines 46 to 49, (emphasis added)). Thus, a *cap chip that is made of silicon* as provided in the context of the presently claimed subject matter is not identically disclosed (nor suggested).

Accordingly, claim 19 is allowable, as are its dependent claims 21, 25 to 27, and 31. Claims 20 and 29 have been canceled without prejudice.

Claims 19, 20, 22, and 31 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent no. 5,851,137 (the “Whitney” reference).

It is respectfully submitted that the “Whitney” reference does not identically disclose (nor suggest) the claim 19 feature of “*between the measurement areas there is formed a wafer bond support point in which the cap chip is fastened on the measurement chip.*” Accordingly, claim 19 is allowable, as are its dependent claims 22 and 31. Claim 20 has been canceled without prejudice.

Claims 19, 20, and 31 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application No. 2006/0063292 (the “Landsberger” reference).

It is respectfully submitted that the “Landsberger” reference does not identically disclose (nor suggest) the claim 19 feature of “*between the measurement areas there is formed a wafer bond support point in which the cap chip is fastened on the measurement chip.*” Accordingly, claim 19 is allowable, as is its dependent claim 31. Claim 20 has been canceled without prejudice.

Claims 19, 20, 21, 27, 28, 35 and 36 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 7,402,453 (the “Derderian” reference).

The Derderian reference is not prior art since the present application is entitled to its German patent application priority date of March 4, 2004. If the rejection is maintained on this reference, a certified translation will be provided to remove the reference.

In any event, it is respectfully submitted that the “Derderian” reference does not identically disclose (nor suggest) the claim 19 feature of “*between the measurement areas there is formed a wafer bond support point in which the cap chip is fastened on the measurement chip*”, as provided for in the context of the presently claimed subject matter. \

Accordingly, claim 19 is allowable, as are its dependent claims 21, 27, 28, 35, and 36. Claim 20

In view of the foregoing, withdrawal of all anticipation rejections is therefore respectfully requested.

Claim 23 is rejected under 35 U.S.C. 103(a) as unpatentable over the combination of the “Landsberger” reference in view of Lahiji et al. (G.R. Lahiji and K.D. Wise, “*A batch-fabricated Silicon Thermopile Infrared Detector*,” IEEE Transactions on Electron Devices, Vol. ED-29, No. 1, 1982), (the “Lahiji” reference).

To reject a claim under 35 U.S.C. § 103(a), the Office bears the initial burden of presenting a *prima facie* case of obviousness. *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish *prima facie* obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

Also, as clearly indicated by the Supreme Court in *KSR*, it is “important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements” in the manner claimed. *See KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007). In this regard, the Supreme Court further noted that “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.*, at 1396. Second, there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim features. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Claim 23 depends from claim 19 and is therefore allowable for the same reasons as claim 10, since the secondary reference does not cure and is not asserted to cure the critical deficiencies of the primary reference. It is therefore respectfully requested that the obviousness rejection for claim 23 be withdrawn.

Accordingly, claims 19, 21 to 23, 30 to 32, 35, and 36 are allowable.

CONCLUSION

In view of the foregoing, it is respectfully submitted that all of the pending and considered claims are allowable. It is therefore respectfully requested that the rejections and objections be withdrawn. Prompt reconsideration and allowance of the present application are therefore respectfully requested.

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